

DETAILED ACTION

The amendment filed on April 21, 2011 has been entered. Claims 18-25, 28-36 remain pending in the application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim element “means for circulating the ice slurry between the at least one treatment tank and the supply tank” is a limitation that invokes 35 U.S.C. 112, sixth paragraph. The written description only implicitly or inherently sets forth the corresponding structure, material, or acts that perform the claimed function.

Pursuant to 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181, applicant should:

- (a) Amend the claim so that the claim limitation will no longer be interpreted as a limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it expressly recites the corresponding structure, material, or acts that perform the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record what corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function.

For the purposes of examination, since figure 1 implicitly discloses a pump (23) and pipe (24) as structure corresponding to the claimed means for circulation, the examiner is going to treat the means for circulation to be a pump and pipe and equivalents thereof.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 18, 20, 28, 29, 31 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,761,913 to Liberman et al., hereinafter referred to as Liberman in view of US 2,263,452 to Birdseye, hereinafter referred to as Birdseye.

In reference to claim 18, Liberman and Birdseye disclose the claimed invention including:

Liberman teaches a method for tempering a plurality of packaged product units (16) in a treatment tank (6), the method comprising:

placing the plurality of packaged product units in the treatment tank, see figure 2d;

introducing an ice slurry comprising water and ice particles into the treatment tank to submerge the plurality of packaged product units, see at least column 5 lines 1-17; and

circulating the ice slurry in the treatment tank around the plurality of at least one packaged product units in order to cool the plurality of at least one packaged product units, see column 5 lines 19-31,

at least one injection nozzle (at 6e) which injects the slurry with sufficient force so that the ice slurry exiting the nozzle recirculates between the plurality of packaged products.

Liberman fails to teach wherein the treatment tank comprises an overflow trough located at an upper part of the treatment tank and an upper level of the ice slurry flows into the overflow trough, is pumped through a pipe connected to the overflow trough and injected back into the treatment tank through at least one injection nozzle.

However, Birdseye teaches that when freezing food products in a tank (30) by submerging the food products into a slurry, that the concept of providing an overflow trough (43) located at an upper part of the treatment tank (30) so that the cooling fluid flows there through and is pumped through a pipe (35) connected to the overflow trough and injected back into the treatment tank (at 33) through at least one injection nozzle with sufficient force so that the ice slurry exiting the at least one injection nozzle recirculates between the plurality of packaged product units. Further, Birdseye teaches that, "recirculating the slush-containing liquid so as to increase the refrigerating effect of the refrigerant", see column 1 lines 39-41. It would have been clear from this teaching to one skilled in the art that recirculating slush-containing liquid increases the refrigerating effect of the slush. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify Liberman to include the overflow trough of Birdseye located at an upper part of the treatment tank (6, Liberman) and an upper level of the ice slurry (present in the upper level of the tank taught by Liberman) flows into the overflow trough (43, Birdseye), is pumped through a pipe connected to the overflow trough and injected back into the treatment tank through at least one injection nozzle with sufficient force so that the ice slurry exiting the at least one injection nozzle recirculates between the plurality of packaged product units as taught by Birdseye in order to advantageously recirculate the slush-containing liquid and increase the refrigerating effect of the refrigerant.

In reference to claim 20, Liberman and Birdseye disclose the claimed invention including:

Liberman and Birdseye fail to teach wherein there are at least three injection nozzles.

Applicant has not disclosed that providing at least three injection nozzles produces any new and unexpected results. Since it has been held that a mere duplication of parts has not patentable significance unless a new and unexpected result is produced and since the concept of including additional injection nozzles was well within the ordinary capabilities of one skilled in the art as an obvious mechanical expedient for circulating water through the tank, and one skilled in the art would expect additional nozzles to create a more uniform flow of ice slurry, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Liberman and Birdseye to include at least three injection nozzles in order to predictably provide uniform circulation of the fluid within the bath.

In reference to claims 28 and 29, Liberman and Birdseye disclose the claimed invention including:

wherein the at least one plurality of packaged product units (16) comprises vacuum packed products comprising food stuff, see Liberman column 5 lines 33-42.

In reference to claim 31, Liberman and Birdseye disclose the claimed invention including:

Liberman teaches a system for tempering a plurality of packaged product units utilizing an ice slurry comprising water and ice particles, the system comprising:

at least one treatment tank (6) for submerging the plurality of packaged product units (16), wherein the at least one treatment tank (6) comprises an upper part;

at least one injection nozzle (at 6e); and
the ice slurry exiting the at least one injection nozzle circulates between the plurality of packaged product units in order to cool the at least one packaged product unit.

Liberman fails to teach the upper part of the tank comprising an overflow trough a pipe connecting the overflow trough and the at least one injection nozzle and a pump associated with the pipe for pumping ice slurry present in the overflow trough through the pipe and injecting the ice slurry back into the at least one treatment tank through the least one injection nozzle.

However, Birdseye teaches that when freezing food products in a tank (30) by submerging the food products into a slurry, that the concept of providing an overflow trough (43) located at an upper part of a treatment tank (30) so that the cooling fluid flows there through and is pumped via pump (34) through a pipe (35) connected to the overflow trough and injected back into the treatment tank

(at 33) through at least one injection nozzle with sufficient force so that the ice slurry exiting the at least one injection nozzle recirculates between the plurality of packaged product units. Further, Birdseye teaches that, "recirculating the slush-containing liquid so as to increase the refrigerating effect of the refrigerant", see column 1 lines 39-41. It would have been clear from this teaching to one skilled in the art that recirculating slush-containing liquid increases the refrigerating effect of the slush. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify Liberman to include the overflow trough of Birdseye located at an upper part of the treatment tank (6, Liberman) and a pipe (35) connecting the overflow trough and the at least one injection nozzle (at 6e of Liberman) and a pump (34, Birdseye) associated with the pipe for pumping ice slurry present in the overflow trough through the pipe and injecting the ice slurry back into the at least one treatment tank through the least one injection nozzle in order to advantageously recirculate the slush-containing liquid and increase the refrigerating effect of the refrigerant.

In reference to claim 33, Liberman and Birdseye disclose the claimed invention including:

a transport organ (11b) for continual transport of the plurality of at least one packaged product units to the at least one treatment tank for cooling with suspension for a required period of time.

In reference to claim 34, Liberman and Birdseye disclose the claimed invention including:

a rack (10b) on which the plurality of packaged product units (16) hangs while submerged in the at least one treatment tank.

In reference to claims 35 and 36, Liberman and Birdseye disclose the claimed invention including:

wherein the at least one injection nozzle (at 6e) is positioned to inject the ice slurry present in the overflow trough horizontally into the treatment tank.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liberman and Birdseye and in further view of WO/9921429 to Borrup, hereinafter referred to as Borrup.

In reference to claim 21, Liberman, Birdseye and Borrup disclose the claimed invention including:

Liberman and Birdseye fail to teach wherein the water is a saline brine in the form of a mixture of salt dissolved in fresh water comprising approximately 2% salt

However, Borrup teaches that it is a known method to provide a slurry wherein the water is saline brine in the form of a mixture of salt dissolved in fresh water, see page 7, lines 11-13. Borrup further teaches that the percentage of salt dissolved is a result effective variable in that it achieves a recognized result.

Under this analysis the recognized result is providing a good heat-transfer coefficient, see page 7 lines 10-13.

Since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 223, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to select an optimum mixture of salt and freshwater of 2% salt in order to achieve the optimum heat-transfer coefficient for cooling the desired products.

Allowable Subject Matter

Claims 19, 22, 23, 24, 25, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments with respect to claims 18-36 have been considered but are moot in view of the new ground(s) of rejection.
- 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSEY D. BAUER whose telephone number is (571)270-7113. The examiner can normally be reached on Monday -Thursday: 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on (571)272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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